



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Dent et al.)

Serial No.: 09/770804)

Filed: January 26, 2001)

For: Adaptive Antenna Optimization Network)

Attorney's Docket No: 4015-2041)

Group Art Unit: 2631

Commissioner for Patents
Washington, D.C. 20231#5
3-5-02**REVOCATION AND POWER OF ATTORNEY
WITH STATEMENT UNDER 27 CFR 3.73 (b)
AND CHANGE OF CORRESPONDENCE ADDRESS**

Sir:

Ericsson Inc., a corporation, certifies that it is the assignee of the entire right, title and interest in and to the above-entitled U.S. patent application, and the invention disclosed therein, by virtue of the assignment from the inventor(s) to Ericsson Inc. recorded in the Patent and Trademark Office at Reel/Frame 011561/0967. A copy of the assignment is attached hereto.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, Ericsson Inc. is the assignee of the entire right, title and interest in the U.S. patent application identified.

Ericsson Inc. hereby revokes all previous Powers of Attorney and appoints as my attorneys and/or agents with full power of substitution and revocation, to prosecute this application and transact all business in the United States Patent and Trademark Office, and in countries other than the United States, and to do all things necessary or appropriate therefore before any competent International Authorities in connection with any international patent application(s) corresponding to the above-identified application, all of

the registered practitioners of the law firm of Coats & Bennett, P.L.L.C. identified by
Customer Number 24112:



24112

24112
PATENT TRADEMARK OFFICE

and the following Ericsson Inc. attorneys and/or agents: Stephen A. Calogero, Reg. No. 41,491; Dennis J. Williamson, Reg. No. 32,338; Mark C. Terrano, Reg. No. 40,200; Jon Han, Reg. No. 41,403; Sidney Weatherford, Reg. No. 45,602; and Roger Burleigh, Reg. No. 40,542.

Please address all future correspondence to

David E. Bennett
Coats & Bennett, P.L.L.C.
1400 Crescent Green, Suite 300
Cary, North Carolina 27511

Please direct all telephone calls about this application and the resulting patent to:

David E. Bennett
Telephone: (919) 854-1844

The undersigned is empowered to sign this statement on behalf of the assignee.

2/15/02
Date

Dennis J. Williamson, Registration No. 32,338
Associate General Counsel

511 Davis Drive
Research Triangle Park, NC 27709
Tel: (919) 472-1641
Fax: (919) 472-7449

02/19/02

10:50

COATS+BENNETT → 17038729313

NO. 001

003

4015-2041



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

MAY 14, 2001

PTAS



101632061A

BUCHANAN INGERSOLL
BRYAN H. OPALCO
ONE OXFORD CENTRE, 20TH FLOOR
PITTSBURGH, PA 15219

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 03/01/2001

REEL/FRAME: 011561/0967
NUMBER OF PAGES: 28

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

DENT, PAUL W.

DOC DATE: 01/24/2001

ASSIGNOR:

HOLSHOUSER, HOWARD EUGENE

DOC DATE: 01/18/2001

ASSIGNOR:

PHILLIPS, JOHN CHARLES

DOC DATE: 01/22/2001

ASSIGNOR:

DOLMAN, ROD

DOC DATE: 01/23/2001

ASSIGNOR:

BOESCH, RON D.

DOC DATE: 01/19/2001

02/19/02

10:50

COATS+BENNETT → 17038729313

NO.001

004

011561/0967 PAGE 2

ASSIGNEE: *

ERICSSON, INC.
7001 DEVELOPMENT DRIVE
P.O. BOX 13969
RESEARCH TRINAGLE PARK
NORTH
CAROLINA
27709

SERIAL NUMBER: 09770804
PATENT NUMBER:

FILING DATE: 01/26/2001
ISSUE DATE:

MARGARET LASALLE, PARALEGAL
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

FORM PTO-1619A
Expires 03/31/03
OMB 0651-0027

03-12-2001

U.S. Department of Commerce
Patent and Trademark Office
PATENT

101632061

3-1-01

**RECORDATION FORM COVER SHEET
PATENTS ONLY****TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).****Submission Type**

New



Resubmission (Non-Recordation)

Document ID#



Correction of PTO Error

Reel #

Frame #



Corrective Document

Reel #

Frame #

Conveyance Type

Assignment



Security Agreement



License



Change of Name



Merger



Other

U.S. Government
(For Use ONLY by U.S. Government Agencies)

Departmental File



Secret File

Conveying Party(ies)

Mark if additional names of conveying parties attached

Name (line 1)

Paul W. Dent

Execution Date
Month Day Year
01 24 01

Name (line 2)

Execution Date
Month Day Year
01 18 01**Second Party**

Name (line 1)

Howard Eugene Holshouser

Name (line 2)

Receiving Party

Mark if additional names of receiving parties attached

Name (line 1)

Ericsson, Inc.

Name (line 2)

☐ If document to be recorded
is an assignment and the
receiving party is not
domiciled in the United
States, an appointment
of a domestic
representative is attached.
(Designation must be a
separate document from
Assignment)

Address (line 1)

7001 Development Drive

Address (line 2)

P.O. Box 13969

Address (line 3)

Research Triangle Park

North Carolina

27709

City

State/Country

Zip Code

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

03/09/2001 6TOM11 00000102 09770804

FOR OFFICE USE ONLY

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Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to:
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

FORM PTO-1619C
Expires 06/30/99
OMB 0551-0027RECORDATION FORM COVER SHEET
CONTINUATION
PATENTS ONLYU.S. Department of Commerce
Patent and Trademark Office
PATENT

Conveying Party(ies)

☐ Mark if additional names of conveying parties attached

Enter additional Conveying Parties

Execution Date
Month Day Year

Name (line 1) John Charles Phillips

01 22 01

Name (line 2)

Execution Date
Month Day Year

Name (line 1) Rod Dolman

01 23 01

Name (line 2)

Execution Date
Month Day Year

Name (line 1) Ron D. Boesch

01 19 01

Name (line 2)

Receiving Party(ies)

☐ Mark if additional names of receiving parties attached

Enter additional Receiving Party(ies)

Name (line 1)

☐ If document to be recorded
is an assignment and the
receiving party is not
domiciled in the United
States, an appointment
of a domestic representative
is attached. (Designation
must be a separate
document from
Assignment.)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)

City

State/Country

Zip Code

Name (line 1)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)

City

State/Country

Zip Code

☐ If document to be recorded
is an assignment and the
receiving party is not
domiciled in the United
States, an appointment of a
domestic representative is
attached. (Designation must
be a separate document from
Assignment.)

Application Number(s) or Patent Number(s)

☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

FORM PTO-1619B

Expires 06/30/99
OMB 0851-0027

Page 2

U.S. Department of Commerce
Patent and Trademark Office
PATENT**Correspondent Name and Address**Area Code and Telephone Number **412/562-1893**Name **Bryan H. Opalko**Address (line 1) **BUCHANAN INGERSOLL**Address (line 2) **One Oxford Centre, 20th Floor**Address (line 3) **Pittsburgh, PA 15219**

Address (line 4)

PagesEnter the total number of pages of the attached conveyance document
including any attachments.# **25****Application Number(s) or Patent Number(s)**☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

09/770,804

Patent Number(s)

If this document is being filed together with a new Patent Application, enter the date the patent application was
signed by the first named executing inventor.

Month Day Year

Patent Cooperation Treaty (PCT)Enter PCT application number
only if a U.S. Application Number
has not been assigned.PCT PCT PCT
PCT PCT PCT **Number of Properties**

Enter the total number of properties involved.

1**Fee Amount**Fee Amount for Properties Listed (37 CFR 3.41): \$ **40.00**Method of Payment:
Deposit AccountEnclosed ☒ Deposit Account ☐

(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number:

02-4553

Authorization to charge additional fees:

Yes ☒ No ☐**Statement and Signature***To the best of my knowledge and belief, the foregoing information is true and correct and any
attached copy is a true copy of the original document. Charges to deposit account are authorized, as
indicated herein.***Bryan H. Opalko, Reg. No. 40,751**

Name of Person Signing

Signature

February 27, 2001

Date

ASSIGNMENT

WHEREAS, We, Paul W. Dent, Howard Eugene Holshouser, John Charles Phillips, Rod Dolman and Ron Boesch, residing at Pittsboro, Chatham County, North Carolina, Efland, Orange County, North Carolina, Newhill, Wake County, North Carolina, Forest, Bedford County, Virginia, and Morrisville, Wake County, North Carolina respectively, have invented certain new and useful improvements in ADAPTIVE ANTENNA OPTIMIZATION NETWORK for which we have this day executed an application for United States Letters Patent.

AND WHEREAS, Ericsson Inc., a Delaware corporation, having a place of business at 7001 Development Drive, P. O. Box 13969, Research Triangle Park, North Carolina 27709, hereinafter called the "assignee", is desirous of acquiring the entire right, title and interest in and to said application and the inventions and improvements therein disclosed;

NOW, THEREFORE, in consideration of One (\$1.00) Dollar and other good and valuable consideration paid to us by said assignee, receipt whereof we acknowledge, we do hereby assign, sell, transfer, and set over unto said assignee the entire right, title, and interest in and to said application and the inventions and improvements therein disclosed for the United States and all foreign countries and any Letters Patent which may issue therefor in the United States and all foreign countries and all divisions, reissues, continuations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country and the Union, said assignee to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisions, reissues, continuations, renewals,

and/or extensions thereof, respectively, as fully and entirely as the same would have been held and enjoyed by us had this assignment not been made.

The Commissioner of Patents and Trademarks is requested to issue such Letters Patent in accordance herewith. We covenant that we are the lawful owners of said application, inventions, and improvements, that the same are unencumbered, that no license has been granted to make, use or vend the said inventions or improvements or any of them, and that we have the full right to make this assignment.

And for the consideration aforesaid, we agree jointly and individually that we will communicate to said assignee or the representatives thereof any facts known to us respecting said inventions and improvements, and will, upon request, but without expense to us, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, renewal and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said assignee or by counsel for said assignee, to assist or enable said assignee to obtain and enforce full benefits from the rights and interests herein assigned. This

assignment shall be binding upon our heirs, executors, administrators, and/or assigns, and shall inure to the benefit of the successors, and/or assigns, as the case may be, of said assignee.

DATED:

24 JAN, 2001 Paul W. Dent (SEAL)
Paul W. Dent

_____, 2001 _____ (SEAL)
Howard Eugene Holshouser

_____, 2001 _____ (SEAL)
John Charles Phillips

_____, 2001 _____ (SEAL)
Rod Dolman

_____, 2001 _____ (SEAL)
Ron Boesch

State of North Carolina :

County of Wake : ss:

Before me, a Notary Public in and for the said County and State, personally appeared PAUL W. DENT who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 24th day of January, 2001.

Barbara G. Frederick
Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared HOWARD EUGENE HOLSHOUSER who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared JOHN CHARLES PHILLIPS who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared ROD DOLMAN who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared RON BOESCH who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2000.

Notary Public

(NOTARIAL SEAL)

ASSIGNMENT

WHEREAS, We, Paul W. Dent, Howard Eugene Holshouser, John Charles Phillips, Rod Dolman and Ron Boesch, residing at Pittsboro, Chatham County, North Carolina, Efland, Orange County, North Carolina, Newhill, Wake County, North Carolina, Forest, Bedford County, Virginia, and Morrisville, Wake County, North Carolina respectively, have invented certain new and useful improvements in ADAPTIVE ANTENNA OPTIMIZATION NETWORK for which we have this day executed an application for United States Letters Patent.

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NOW, THEREFORE, in consideration of One (\$1.00) Dollar and other good and valuable consideration paid to us by said assignee, receipt whereof we acknowledge, we do hereby assign, sell, transfer, and set over unto said assignee the entire right, title, and interest in and to said application and the inventions and improvements therein disclosed for the United States and all foreign countries and any Letters Patent which may issue therefor in the United States and all foreign countries and all divisions, reissues, continuations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country and the Union, said assignee to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisions, reissues, continuations, renewals,

and/or extensions thereof, respectively, as fully and entirely as the same would have been held and enjoyed by us had this assignment not been made.

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And for the consideration aforesaid, we agree jointly and individually that we will communicate to said assignee or the representatives thereof any facts known to us respecting said inventions and improvements, and will, upon request, but without expense to us, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, renewal and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said assignee or by counsel for said assignee, to assist or enable said assignee to obtain and enforce full benefits from the rights and interests herein assigned. This

assignment shall be binding upon our heirs, executors, administrators, and/or assigns, and shall inure to the benefit of the successors, and/or assigns, as the case may be, of said assignee.

DATED:

_____, 2001 _____ (SEAL)

Paul W. Dent

18 January, 2001 *Howard Eugene Holshouser* (SEAL)
Howard Eugene Holshouser

_____, 2001 _____ (SEAL)

John Charles Phillips

_____, 2001 _____ (SEAL)

Rod Dolman

_____, 2001 _____ (SEAL)

Ron Boesch

State of _____ :

ss:

County of _____ :

Before me, a Notary Public in and for the said County and State, personally appeared PAUL W. DENT who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of North Carolina :
County of Wake : SS:

Before me, a Notary Public in and for the said County and State, personally appeared HOWARD EUGENE HOLSHOUSER who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 18th day of January, 2001.

Dorinda J. Lewis
Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : SS:

Before me, a Notary Public in and for the said County and State, personally appeared JOHN CHARLES PHILLIPS who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared ROD DOLMAN who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared RON BOESCH who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2000.

Notary Public

(NOTARIAL SEAL)

ASSIGNMENT

WHEREAS, We, Paul W. Dent, Howard Eugene Holshouser, John Charles Phillips, Rod Dolman and Ron Boesch, residing at Pittsboro, Chatham County, North Carolina, Efland, Orange County, North Carolina, Newhill, Wake County, North Carolina, Forest, Bedford County, Virginia, and Morrisville, Wake County, North Carolina respectively, have invented certain new and useful improvements in ADAPTIVE ANTENNA OPTIMIZATION NETWORK for which we have this day executed an application for United States Letters Patent.

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NOW, THEREFORE, in consideration of One (\$1.00) Dollar and other good and valuable consideration paid to us by said assignee, receipt whereof we acknowledge, we do hereby assign, sell, transfer, and set over unto said assignee the entire right, title, and interest in and to said application and the inventions and improvements therein disclosed for the United States and all foreign countries and any Letters Patent which may issue therefor in the United States and all foreign countries and all divisions, reissues, continuations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country and the Union, said assignee to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisions, reissues, continuations, renewals,

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And for the consideration aforesaid, we agree jointly and individually that we will communicate to said assignee or the representatives thereof any facts known to us respecting said inventions and improvements, and will, upon request, but without expense to us, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, renewal and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said assignee or by counsel for said assignee, to assist or enable said assignee to obtain and enforce full benefits from the rights and interests herein assigned. This

assignment shall be binding upon our heirs, executors, administrators, and/or assigns, and shall inure to the benefit of the successors, and/or assigns, as the case may be, of said assignee.

DATED:

_____, 2001 _____ (SEAL)
Paul W. Dent

_____, 2001 _____ (SEAL)
Howard Eugene Holshouser

January 22, 2001 John Charles Phillips (SEAL)
John Charles Phillips

_____, 2001 _____ (SEAL)
Rod Dolman

_____, 2001 _____ (SEAL)
Ron Boesch

State of _____ :

ss:

County of _____ :

Before me, a Notary Public in and for the said County and State, personally appeared PAUL W. DENT who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared HOWARD EUGENE HOLSHOUSER who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of North Carolina :
County of Durham : ss:

Before me, a Notary Public in and for the said County and State, personally appeared JOHN CHARLES PHILLIPS who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 22 day of January, 2001.

Denise W. Buck
Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared ROD DOLMAN who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared RON BOESCH who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2000.

Notary Public

(NOTARIAL SEAL)

ASSIGNMENT

WHEREAS, We, Paul W. Dent, Howard Eugene Holshouser, John Charles Phillips, Rod Dolman and Ron Boesch, residing at Pittsboro, Chatham County, North Carolina, Efland, Orange County, North Carolina, Newhill, Wake County, North Carolina, Forest, Bedford County, Virginia, and Morrisville, Wake County, North Carolina respectively, have invented certain new and useful improvements in ADAPTIVE ANTENNA OPTIMIZATION NETWORK for which we have this day executed an application for United States Letters Patent.

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NOW, THEREFORE, in consideration of One (\$1.00) Dollar and other good and valuable consideration paid to us by said assignee, receipt whereof we acknowledge, we do hereby assign, sell, transfer, and set over unto said assignee the entire right, title, and interest in and to said application and the inventions and improvements therein disclosed for the United States and all foreign countries and any Letters Patent which may issue therefor in the United States and all foreign countries and all divisions, reissues, continuations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country and the Union, said assignee to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisions, reissues, continuations, renewals,

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And for the consideration aforesaid, we agree jointly and individually that we will communicate to said assignee or the representatives thereof any facts known to us respecting said inventions and improvements, and will, upon request, but without expense to us, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, renewal and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said assignee or by counsel for said assignee, to assist or enable said assignee to obtain and enforce full benefits from the rights and interests herein assigned. This

assignment shall be binding upon our heirs, executors, administrators, and/or assigns, and shall inure to the benefit of the successors, and/or assigns, as the case may be, of said assignee.

DATED:

_____, 2001 _____ (SEAL)
Paul W. Dent

_____, 2001 _____ (SEAL)
Howard Eugene Holshouser

_____, 2001 _____ (SEAL)
John Charles Phillips

1/23/2001  _____ (SEAL)
Rod Dolman

_____, 2001 _____ (SEAL)
Ron Boesch

State of _____ :

ss:

County of _____ :

Before me, a Notary Public in and for the said County and State, personally appeared PAUL W. DENT who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared HOWARD EUGENE HOLSHOUSER who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared JOHN CHARLES PHILLIPS who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of NORTH CAROLINACounty of Wake

ss:

Before me, a Notary Public in and for the said County and State, personally appeared ROD DOLMAN who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 23rd day of January, 2001.

Diana J. Lewis
Notary Public

(NOTARIAL SEAL)

State of _____ :

ss:

County of _____ :

Before me, a Notary Public in and for the said County and State, personally appeared RON BOESCH who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2000.

Notary Public

(NOTARIAL SEAL)

ASSIGNMENT

WHEREAS, We, Paul W. Dent, Howard Eugene Holshouser, John Charles Phillips, Rod Dolman and Ron Boesch, residing at Pittsboro, Chatham County, North Carolina, Efland, Orange County, North Carolina, Newhill, Wake County, North Carolina, Forest, Bedford County, Virginia, and Morrisville, Wake County, North Carolina respectively, have invented certain new and useful improvements in ADAPTIVE ANTENNA OPTIMIZATION NETWORK for which we have this day executed an application for United States Letters Patent.

AND WHEREAS, Ericsson Inc., a Delaware corporation, having a place of business at 7001 Development Drive, P. O. Box 13969, Research Triangle Park, North Carolina 27709, hereinafter called the "assignee", is desirous of acquiring the entire right, title and interest in and to said application and the inventions and improvements therein disclosed;

NOW, THEREFORE, in consideration of One (\$1.00) Dollar and other good and valuable consideration paid to us by said assignee, receipt whereof we acknowledge, we do hereby assign, sell, transfer, and set over unto said assignee the entire right, title, and interest in and to said application and the inventions and improvements therein disclosed for the United States and all foreign countries and any Letters Patent which may issue therefor in the United States and all foreign countries and all divisions, reissues, continuations, renewals, and/or extensions thereof including all priority rights under the International Convention associated therewith for each country and the Union, said assignee to have and to hold the interests herein assigned to the full ends of the terms of said Letters Patent and any and all divisions, reissues, continuations, renewals,

and/or extensions thereof, respectively, as fully and entirely as the same would have been held and enjoyed by us had this assignment not been made.

The Commissioner of Patents and Trademarks is requested to issue such Letters Patent in accordance herewith. We covenant that we are the lawful owners of said application, inventions, and improvements, that the same are unencumbered, that no license has been granted to make, use or vend the said inventions or improvements or any of them, and that we have the full right to make this assignment.

And for the consideration aforesaid, we agree jointly and individually that we will communicate to said assignee or the representatives thereof any facts known to us respecting said inventions and improvements, and will, upon request, but without expense to us, testify in any legal proceedings, sign all lawful papers, execute all divisional, reissue, continuation, renewal and/or extension applications, make all rightful oaths, and generally do all other and further lawful acts, deemed necessary or expedient by said assignee or by counsel for said assignee, to assist or enable said assignee to obtain and enforce full benefits from the rights and interests herein assigned. This

assignment shall be binding upon our heirs, executors, administrators, and/or assigns, and shall inure to the benefit of the successors, and/or assigns, as the case may be, of said assignee.

DATED:

_____, 2001 _____ (SEAL)
Paul W. Dent

_____, 2001 _____ (SEAL)
Howard Eugene Holshouser

_____, 2001 _____ (SEAL)
John Charles Phillips

_____, 2001 _____ (SEAL)
Rod Dolman

19 Jan, 2001 Ronald D Boesch (SEAL)
Ron Boesch

State of _____ :

ss:

County of _____ :

Before me, a Notary Public in and for the said County and State, personally appeared PAUL W. DENT who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared HOWARD EUGENE HOLSHOUSER who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared JOHN CHARLES PHILLIPS who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this ____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of _____ :
County of _____ : ss:

Before me, a Notary Public in and for the said County and State, personally appeared ROD DOLMAN who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this _____ day of _____, 2001.

Notary Public

(NOTARIAL SEAL)

State of North Carolina :
County of Wake : ss:

Before me, a Notary Public in and for the said County and State, personally appeared RON BOESCH who acknowledged that he is the persons who executed the foregoing assignment and acknowledged it to be his free and voluntary act and deed.

Witness my hand and notarial seal this 19th day of January, ²⁰⁰¹~~2000~~.

Barbara A. Kuhlmann
Notary Public

(NOTARIAL SEAL)

My Commission Expires
On March 1, 2003

FORM PTO-1619A

Expires 06/30/99
OMB 0651-0027U.S. Department of Commerce
Patent and Trademark Office
PATENT**RECORDATION FORM COVER SHEET
PATENTS ONLY**

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

New



Resubmission (Non-Recordation)

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Correction of PTO Error

Reel #

Frame #



Corrective Document

Reel #

Frame #

Conveyance Type

Assignment



Security Agreement



License



Change of Name



Merger



Other

U.S. Government

(For Use ONLY by U.S. Government Agencies)



Departmental File



Secret File

Conveying Party(ies)

Mark if additional names of conveying parties attached

Name (line 1)

Paul W. Dent

Execution Date

Month Day Year

01 24 01

Name (line 2)

Execution Date

Month Day Year

01 18 01

Second Party

Name (line 1)

Howard Eugene Holshouser

Name (line 2)

Receiving Party

Mark if additional names of receiving parties attached

Name (line 1)

Ericsson, Inc.

Name (line 2)

If document to be recorded
is an assignment and the
receiving party is not
domiciled in the United
States, an appointment
of a domestic
representative is attached.
(Designation must be a
separate document from
Assignment.)

Address (line 1)

7001 Development Drive

Address (line 2)

P.O. Box 13969

Address (line 3)

Research Triangle Park

North Carolina

27709

City

State/Country

Zip Code

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

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FORM PTO-1619C

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01/18 0051-0027RECORDATION FORM COVER SHEET
CONTINUATION
PATENTS ONLYU.S. Department of Commerce
Patent and Trademark Office
PATENT

Conveying Party(ies)

☐ Mark if additional names of conveying parties attached

Enter additional Conveying Parties

Name (line 1) John Charles Phillips

Execution Date
Month Day Year

01 22 01

Name (line 2)

Name (line 1) Rod Dolman

Execution Date
Month Day Year

01 23 01

Name (line 2)

Name (line 1) Ron D. Boesch

Execution Date
Month Day Year

01 19 01

Name (line 2)

Receiving Party(ies)

☐ Mark if additional names of receiving parties attached

Enter additional Receiving Party(ies)

Name (line 1)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)

City

State/Country

Zip Code

Name (line 1)

Name (line 2)

Address (line 1)

Address (line 2)

Address (line 3)

City

State/Country

Zip Code

☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)☐ If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Application Number(s) or Patent Number(s)

☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

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Page 2

U.S. Department of Commerce
Patent and Trademark Office
PATENT**Correspondent Name and Address**Area Code and Telephone Number **412/562-1893**Name **Bryan H. Opalko**Address (line 1) **BUCHANAN INGERSOLL**Address (line 2) **One Oxford Centre, 20th Floor**Address (line 3) **Pittsburgh, PA 15219**

Address (line 4)

PagesEnter the total number of pages of the attached conveyance document
including any attachments.# **25****Application Number(s) or Patent Number(s)**☐ Mark if additional numbers attached

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Patent Application Number(s)

09/770,804

Patent Number(s)

If this document is being filed together with a new Patent Application, enter the date the patent application was
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Patent Cooperation Treaty (PCT)

Enter PCT application number

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Number of Properties

Enter the total number of properties involved.

1**Fee Amount**Fee Amount for Properties Listed (37 CFR 3.41): \$ **40.00**Method of Payment:
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(Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number:

02-4553

Authorization to charge additional fees:

Yes ☒No ☐**Statement and Signature***To the best of my knowledge and belief, the foregoing information is true and correct and any
attached copy is a true copy of the original document. Charges to deposit account are authorized, as
indicated herein.***Bryan H. Opalko, Reg. No. 40,751**

Name of Person Signing

Signature

February 27, 2001

Date